

# **THERMOBREAK<sup>®</sup> LS** Tube

Thermal Insulation

*Physically crosslinked polyolefin foam  
pipe insulation tested & classified in  
accordance with ISO 9705*



**SEKISUI**

**FOAM  
INTERNATIONAL**  
Global Foam Solutions

**PHYSICALLY  
CROSSLINKED**  
SEKISUI TECHNOLOGY



## The New Standard in Polyolefin Insulation



**Thermobreak®** is the leading and most innovative polyolefin foam thermal insulation available to the HVAC and Building industry worldwide. **Thermobreak®**'s performance is unsurpassed.

Developed in Australia over 30 years ago, **Thermobreak®** is manufactured using our proprietary physically crosslinked closed cell polyolefin foam technology, invented and commercialised by the Sekisui Chemical group in Japan. Laminated with reinforced foil and adhesive backing, **Thermobreak®** is widely recognised as the global leader in polyolefin insulation.

## Superior Fire & Smoke Performance

### Third Party Certifications

**Thermobreak®** is tested and classified in accordance with ISO 9705 Full Scale Room Fire Test.

**Thermobreak®** LS is Codemark certified, providing a means of compliance with all relevant requirements of the Building Code of Australia and the Building Code of New Zealand.



### Compliance to International Fire & Smoke Standards

**Thermobreak®** LS meets and complies with major international fire and smoke standards for duct and pipe insulation.

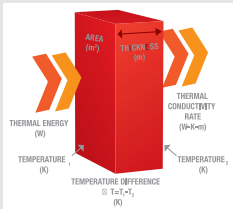
- > ISO 9705
- > AUSTRALIAN (AS 1530.3)
- > ISO STANDARD (ISO 5659-2)
- > BRITISH (BS 476 Class 0)

# Engineered to Perform

## Market leading performance

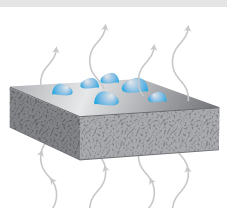
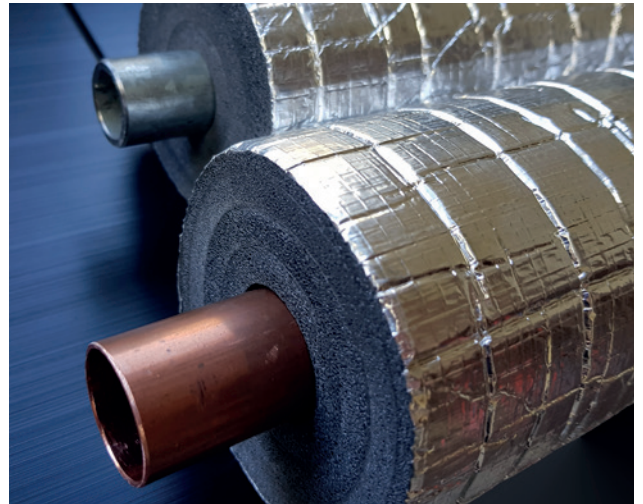
Our unique physically crosslinked technology results in a smaller and more evenly distributed cell structure. Cell structure directly affects thermal conductivity and vapour permeability. Both are key factors in insulation performance.

Thermobreak®'s thermal performance remains relatively unchanged over a 10 year period.



### Thermal Conductivity:

**0.032 W/mK (23°C)** is the lowest of any flexible insulated material. On equivalent thickness basis, Thermobreak® provides up to 18% better insulation than elastomeric and chemically crosslinked foams.



**Vapour Permeability of almost zero** ensures our thermal conductivity remains relatively constant for a period of 10 years thus significantly contributing to building sustainability and energy cost reduction.

Vapour Permeability =  $2.3 \times 10^{-15}$  Kg/Pa.s.m  
Permeability Resistance Factor:  $\mu > 80,000$

## Building Sustainability

Building Sustainability, Energy Efficiency, Indoor Air Quality and Health & Safety, are all key elements embodied in the Green Building concept.

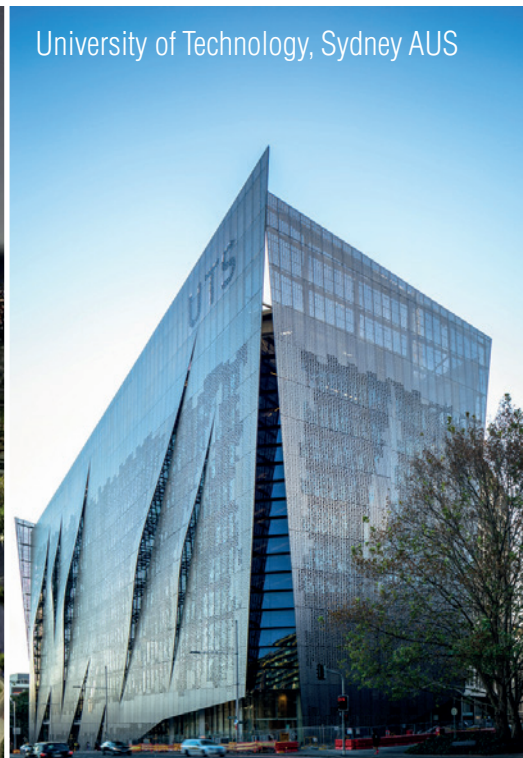
Thermobreak® insulation is manufactured to support and comply with such initiatives and enables credit point accumulation through various building accreditation systems such as LEED and Estidama.

- Green Star Compliant (VOC)
- No CFCs or HCFCs
- Zero Ozone Depletion Potential
- Low GWP
- Zero PVC, Zero Formaldehyde
- Resistance to Mould Growth

Grand Hyatt, Manila



University of Technology, Sydney AUS



Burwood Hospital, NZ



# THERMOBREAK<sup>®</sup> LS Tube

## TECHNICAL SPECIFICATIONS

### Physical Properties

|  |   |
|--|---|
| Material:  | Physically (irradiation) crosslinked closed cell polyolefin foam with factory applied reinforced aluminium foil |
| Density:   | 25 kg/m <sup>3</sup> (foam core only)   |
| Thermal Conductivity: (ASTM C518)                          | 0.032 W/mK (@23°C mean temp.)   |
| Water Vapour Permeability: (ASTM E96)                      | 2.3 x 10 <sup>-15</sup> kg/Pa.s.m   |
| Water Vapour Permeance: 12mm thickness                     | 0.000195 µg/N.s   |
| Water absorption by volume: (ASTM C1763, Procedure B, 24h) | < 0.2% v/v  |
| Permeability Resistance Factor:                            | µ > 80,000  |
| Resistance to fungi: (ASTM G21)                            | Zero Growth   |
| Ozone Resistance:  | Excellent   |
| Operating Temperature Range:                               | -80 °C ~ +100 °C  |
| GreenStar Rating: (ASTM D5116)                             | Low VOC Emitting  |
| Leachable Chlorides: (ASTM C871)                           | < 12 ppm (< 0.0012% w/w)  |

### Fire and Smoke Performance

|        |                        |     |
|--------|------------------------|-----|
| AS1530 | Ignitability Index:    | 0   |
|        | Spread of Flame Index: | 0   |
|        | Heat Evolved Index:    | 0   |
|        | Smoke Developed Index: | 0-1 |

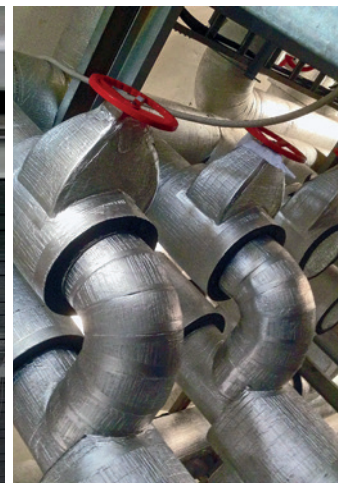
|                  |   |
|------------------|---|
| ISO 9705 (25mm): | Group 2 Classification (BCA)<br>Group 2 S Classification (BCNZ) |
|------------------|---|

|                     |         |
|---------------------|---------|
| BS 476 Parts 6 & 7: | CLASS 0 |
|---------------------|---------|

### Size Availability

Available in standard pipe OD's from 12mm to 273mm with wall thicknesses up to 70mm.

Tube length: 2m  
Other sizes available on request



Product Certification may be plant specific. Please consult with your local representative.

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